a 11 46. (Amended-Clean Text) A method for performing the method of claim 1.

REMARKS

By the above amendment, claims 4, 5, 8, 9, 10, 12, 13, 16, 17, 18, 22, 23, 25, 27, 28, 35, 39, 42, and 46 have been amended to delete multiple dependency.

If there should be any questions, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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MARKED-UP COPY OF AMENDED CLAIMS

4. (Amended) A method as claimed in claim 2 [or claim 3] wherein the noise energy is determined by measuring the signal energy E_r of blocks of the digitally converted signals and calculating the noise energy E_n in accordance with

$$E_n^{k+1} = \alpha E_n^{k} + (1- \alpha) E_r^{k+1}$$

Where the superscript K is the block number and α is an empirically chosen weight.

5. (Amended) A method as claimed in claim 2 [any of claims 2 to 4] further comprising the steps of determining a noise threshold from the noise energy and updating the noise energy and noise threshold when the signal energy is below the noise threshold.

8. (Amended) A method as claimed in claim 5 [any one of claims 5 to 7] wherein the noise threshold T_{n1} is determined in accordance with:

$$T_{n1} = \delta_1 E_n$$

Where δ_1 is an empirically chosen value.

9. (Amended) A method as claimed in claim 5 [any one of claims 5 to 7] wherein the noise threshold T_{n2} is determined in accordance with:

$$T_{n2} = \delta_2 E_n$$

Where δ_2 is an empirically chosen value.

10. (Amended) A method as claimed in claim 1 [any one of the preceding claims] further comprising the step of determining the direction of arrival of the target signal.

12. (Amended) A method as claimed in claim 10 [or claim 11] further comprising the step of treating the signal as an unwanted signal if the signal has not impinged on the array from within a selected angular range.

13. (Amended) A method as claimed in claim 1 [any one of the preceding claims] further comprising the step of calculating a measure of the cross-correlation of signals from two spaced sensors of the array and treating the signal as an unwanted signal if the degree of cross correlation is less than a selected value.

16. (Amended) A method as claimed in claim 14 [or claim 15] further comprising the step of treating the signal as an unwanted signal if the reverberation measure indicates a degree of reverberation in excess of a selected value.

17. (Amended) A method as claimed in claim 1 [any one of the preceding claims] further comprising the step of controlling the operation of the first filter to perform adaptive filtering only when a said target signal is deemed to be present.

18. (Amended) A method as claimed in claim 1 [any one of the preceding claims] wherein the first adaptive filter has a plurality of channels receiving as input the digitized signals and providing as output a sum and at least one difference signal, the difference signal channels including filter elements having corresponding filter weights.

22. (Amended) A method as claimed in claim 1 [any one of the preceding claims] further comprising the step of controlling the operation of the second filter to perform adaptive filtering only when a said target is deemed not to be present.

23. (Amended) A method as claimed in claim 1 [any one of the preceding claims] wherein the first adaptive filter has a plurality of channels receiving input signals from the first adaptive filter and providing as output a sum signal received from the first adaptive filter, an error signal and at least one difference signal, the difference signal channels including further filter elements having corresponding further filter weights.

25. (Amended) A method as claimed in claim 23 [or claim 24] further comprising the step of combining the sum signal and the error signal to form a single signal S(t) of the form:

$$S(t) = W_1 S_c(t) + W_2 e_c(t)$$

where $S_c(t)$ is the sum signal at time t, $e_c(t)$ is the error signal at time t and W_1 and W_2 are weight values.

27. (Amended) A method as claimed in claim 25 [or claim 26] further comprising the step of applying a Hanning window to the single signals.

28. (Amended) A method as claimed in claim 1 [any one of the preceding claims] further comprising the step of transforming the filtered signals into two frequency domain signals a desired signal S_f and an interference signal [I_f] I_f processing the transformed signals to provide a gain for the desired signal and transforming the gain modified desired signal back to the time domain to provide an output.

35. (Amended) A method as claimed in claim 29 [any one of claims 29 to 34] wherein the processing step includes the step of warping the signal and interference spectra into a Bark scale to form corresponding signal and interference Bark spectra.

39. (Amended) A method as claimed in claim 29 [any one of claims 29 to 38] further comprising the step of calculating a signal to noise ratio from the spectra and deriving the gain from the signal to noise ratio.

42. (Amended) A method as claim 40 [or claim 41] wherein the scaling factor changes exponentially.

46. (Amended) A method for performing the method of claim 1 [any one of the preceding claims].